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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,818	01/29/2004	John D. Cathcart	705811US1	5634

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EXAMINER

LUKS, JEREMY AUSTIN

ART UNIT PAPER NUMBER

2837

DATE MAILED: 09/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/767,818

Applicant(s)

CATHCART ET AL.

Examiner

Jeremy Luks

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-4, 8-10 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krider (5,336,856) in view of Miller (5,748,749). Krider teaches an active noise cancellation system (Figure 1, #10) for a vehicle comprising a speaker enclosure (Figure 2, #26) for emitting anti-noise (Col. 4, Lines 50-57); a noise cancellation enclosure (16) containing a noise cancellation space (62), said noise cancellation space (62) being in communication with a noise cancellation port (56) and an exit port (17) coaxial with said noise cancellation port (56) and arranged for allowing exhaust gas to exit from a vehicle, said noise cancellation port (56) being adapted for communicating said anti-noise into said noise cancellation space (62); a conduit (14) for connecting to the exhaust component (Col. 4, Lines 39-42), at least a portion of said conduit (14) being exterior of said noise cancellation enclosure (16) and perpendicular to said noise cancellation port (56), said conduit (14) also having an inner spout portion extending into said noise cancellation space (62) and directing the exhaust noise towards said exit port (17), thereby minimizing the noise that impinges upon the enclosure (16). Krider fails to teach wherein the inner conduit terminates at a non-zero angle relative to an axis along which said exit and noise cancellation ports lie. Miller

teaches an inner conduit (Figure 5, #1) terminates at a non-zero angle relative to an axis along which said exit and noise cancellation ports (3, 4) lie (Col. 5, Lines 9-17). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Krider, with the apparatus of Miller to extend the upper frequency limit of the system by moving the acoustic centers of the noise closer together. Further, Miller teaches "other outlet arrangements and shapes are similarly possible and will be obvious to those skilled in the art" (Page 5, Lines 15-17)

With respect to Claims 2, 9 and 15, Krider and Miller are relied upon for the reasons and disclosures set forth above. Krider and Miller fail to teach wherein the cross sectional area of said exit port is at least ten percent greater than a sum of the cross sections of said noise cancellation port and said conduit opening. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the cross sectional area of said exit port at least ten percent greater than a sum of the cross sections of said noise cancellation port and said pipe opening, since it has been held that discovering the optimum value of a result effective variable involves only routine skill in the Art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

With respect to Claims 4, 10 and 16, Krider and Miller are relied upon for the reasons and disclosures set forth above. Krider and Miller fail to teach wherein said noise cancellation space has a spatial volume, less the spatial volume of said inner spout portion, greater than or equal to twice the spatial volume of said noise cancellation port. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the noise cancellation space with a spatial

volume, less the spatial volume of said inner spout portion, greater than or equal to twice the spatial volume of said noise cancellation port, since it has been held that discovering the optimum value of a result effective variable involves only routine skill in the Art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

2. Claims 5-7, 11-13 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krider (5,336,856) in view of Miller (5,748,749), as applied to claims 1, 8 and 14 above, and further in view of Shipps (6,072,880). Krider and Miller are relied upon for the reasons and disclosures set forth above. Krider and Miller fail to teach said enclosure is formed of aluminum and comprises at least one prong positioned on said enclosure to facilitate its mounting, and further comprises a screen positioned across said noise cancellation port. Shipps teaches an enclosure (Figure 1, #12) formed of aluminum (Col. 5, Lines 63-64) and comprises at least one prong (26, 28) positioned on said enclosure (12) to facilitate its mounting, and further comprises a screen (114) positioned across a noise cancellation port (22). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the apparatus of Krider as modified, with the apparatus of Shipps secure the structure to a vehicle for operation, as well as to prevent debris from entering the noise canceling enclosure.

### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection. The Examiner affirms that the obvious

combination of Krider, Miller and Shipps teach all of the limitations as claimed by Applicant.

***Conclusion***

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy Luks whose telephone number is (571) 272-2707. The examiner can normally be reached on Monday-Thursday 8:30-6:00, and alternating Fridays.

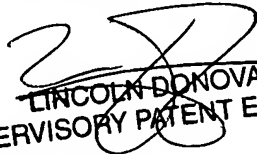
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on (571) 272-1988. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeremy Luks  
Patent Examiner  
Art Unit 2837

  
LINCOLN DONOVAN  
SUPERVISORY PATENT EXAMINER